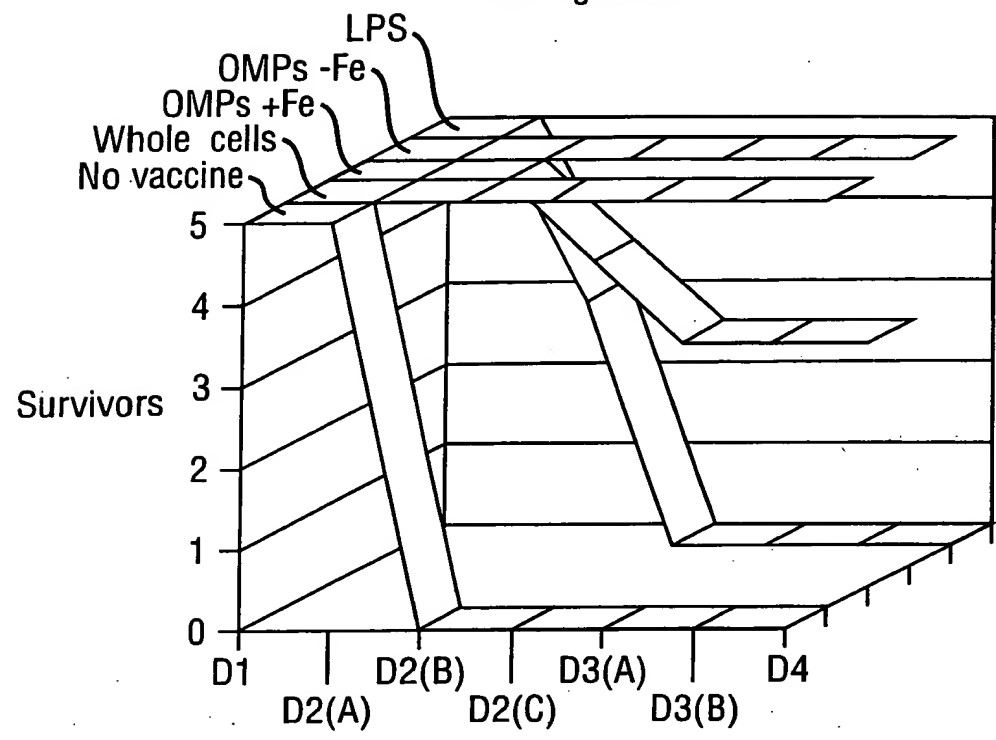


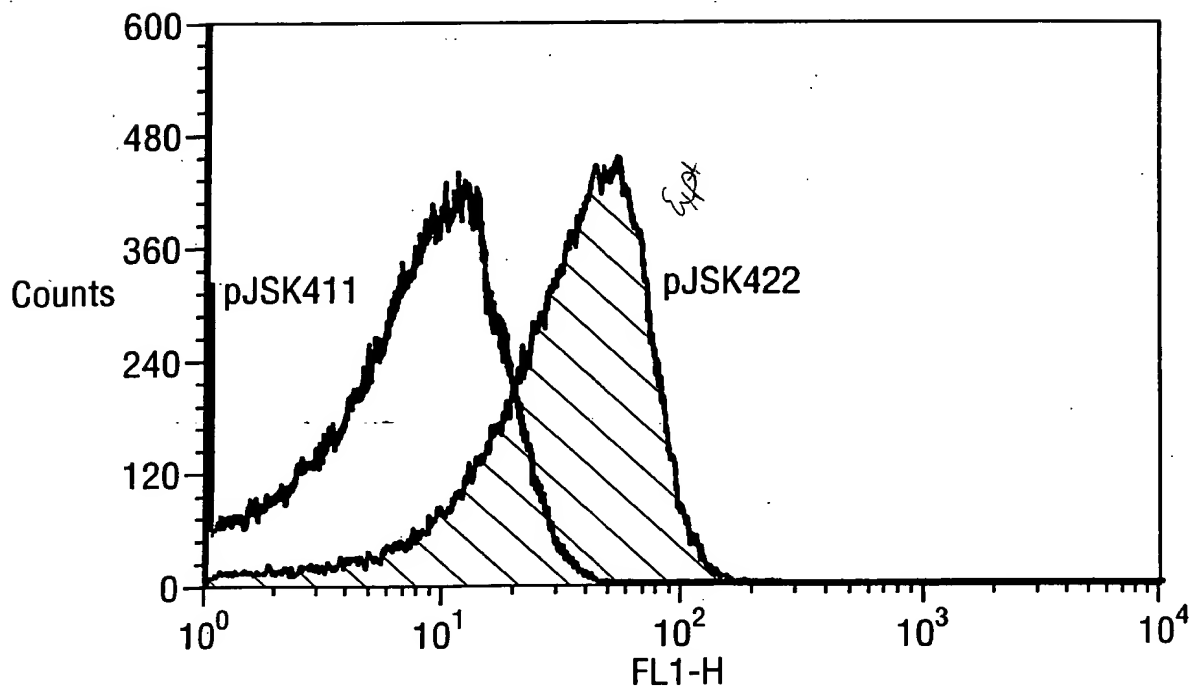
TOP SECRET

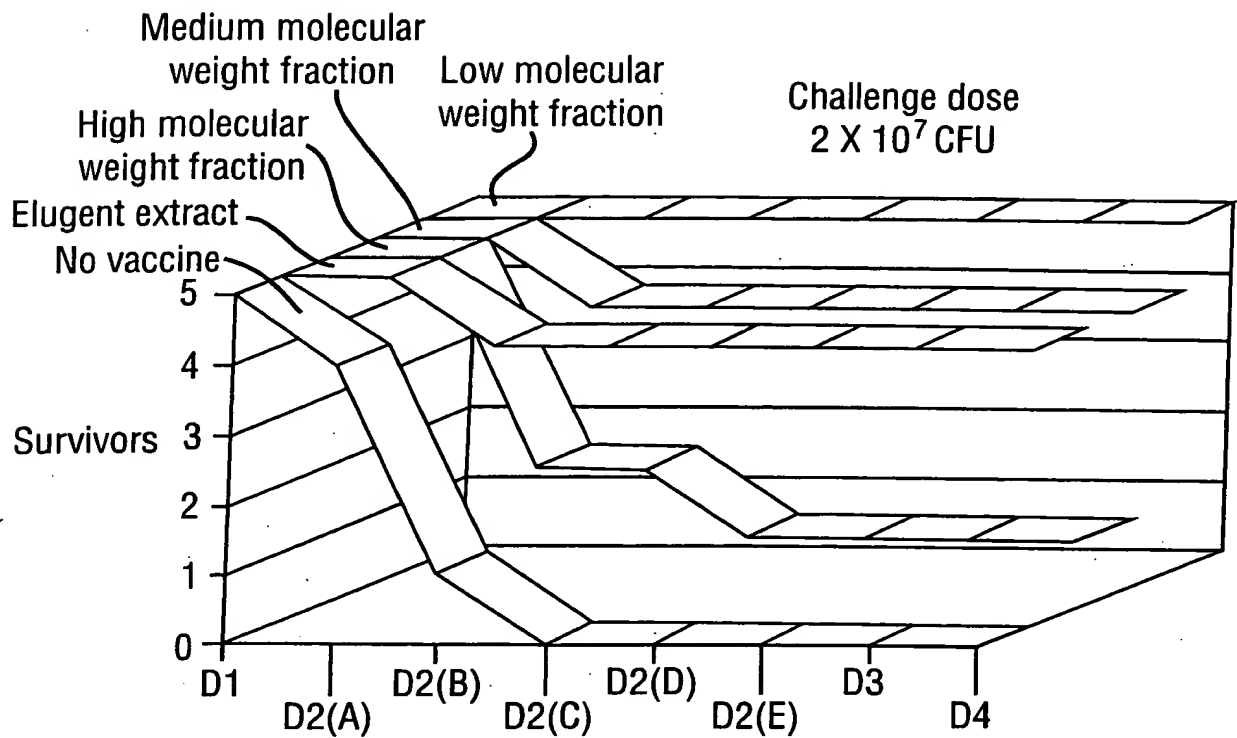
**FIG. 1**

Challenge dose  $10^8$  CFU

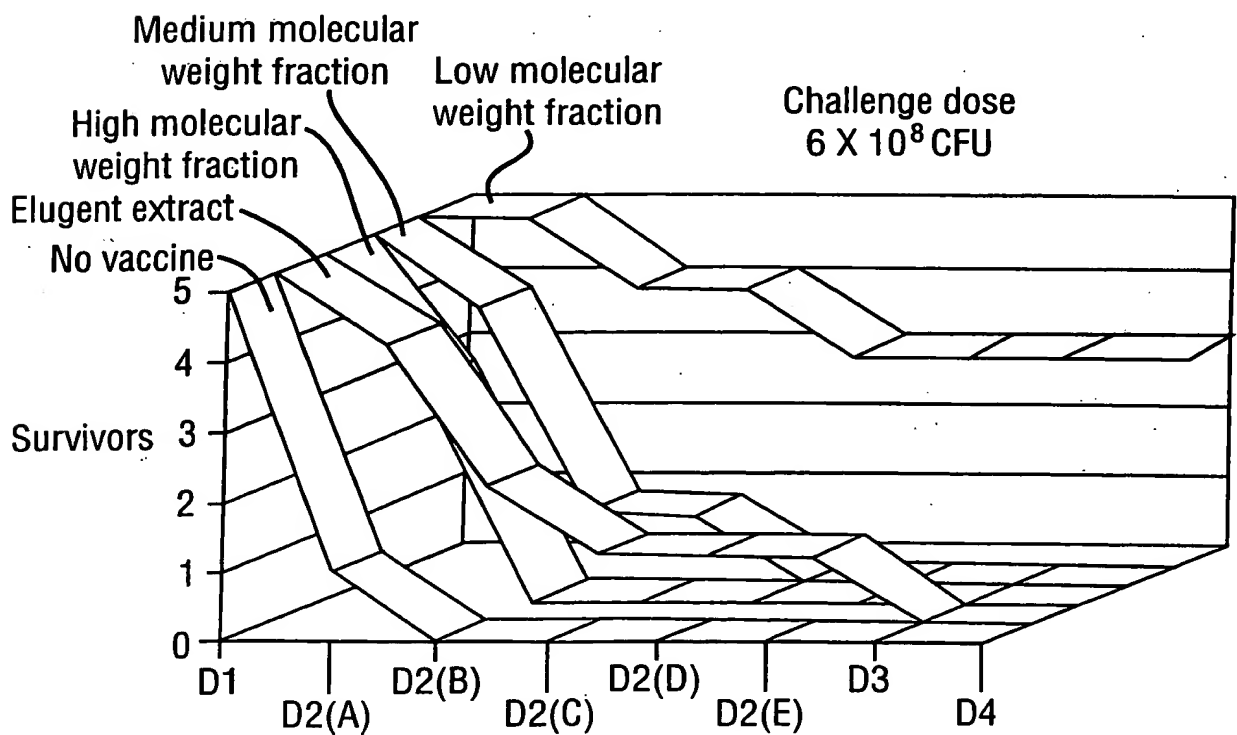


**FIG. 6**





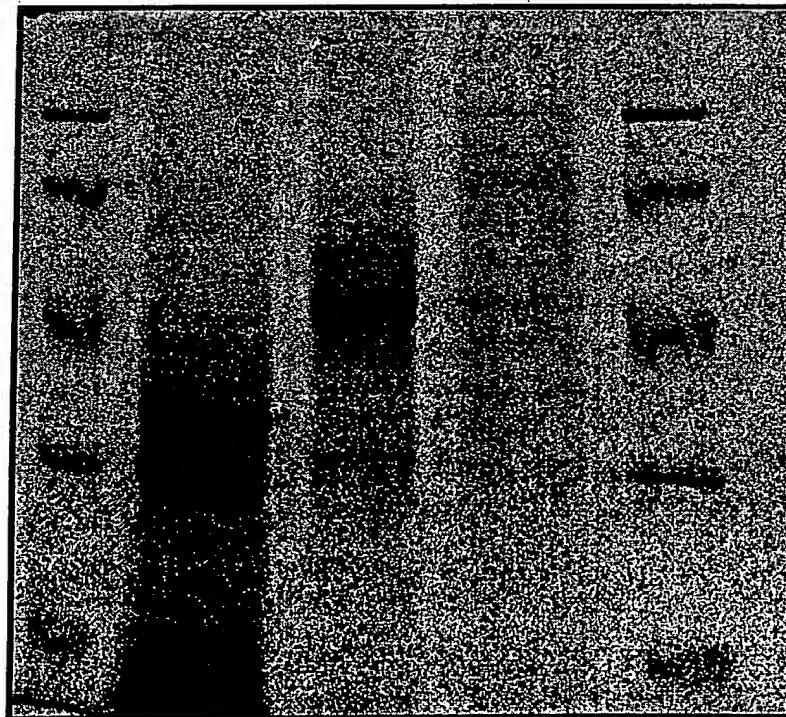
**FIG. 2A**



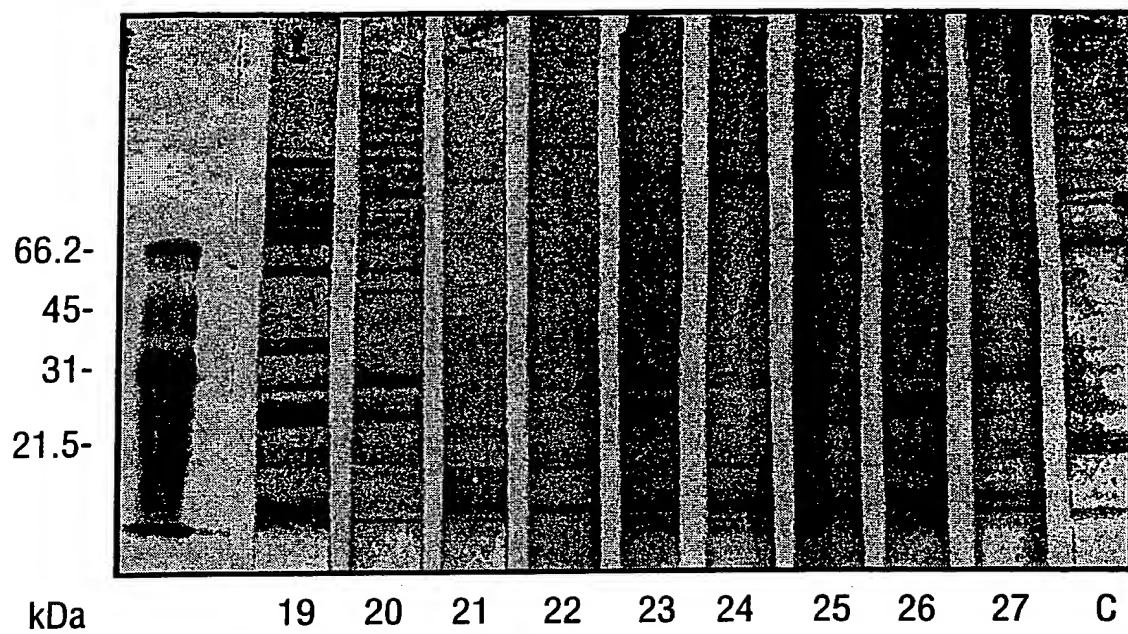
*FIG. 2B*

LOW MEDIUM HIGH

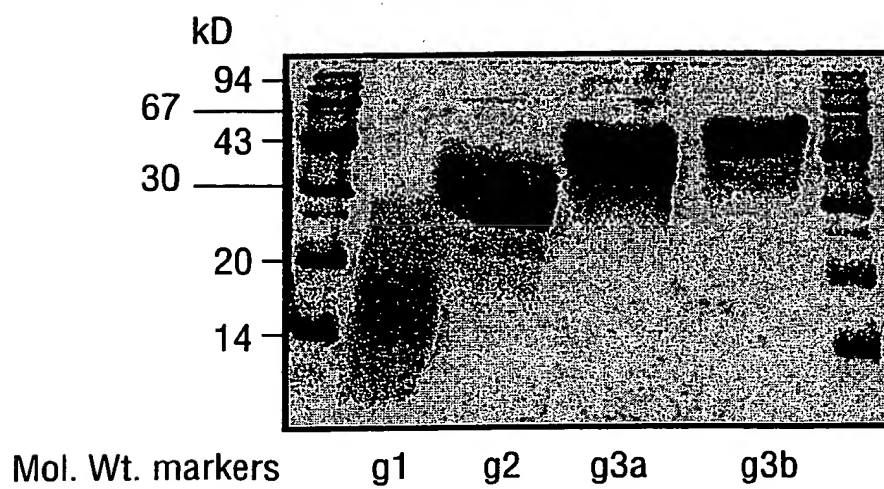
Molecular  
weight kDa



*FIG. 3*



*FIG. 4*



FOI b6 b7C b7D

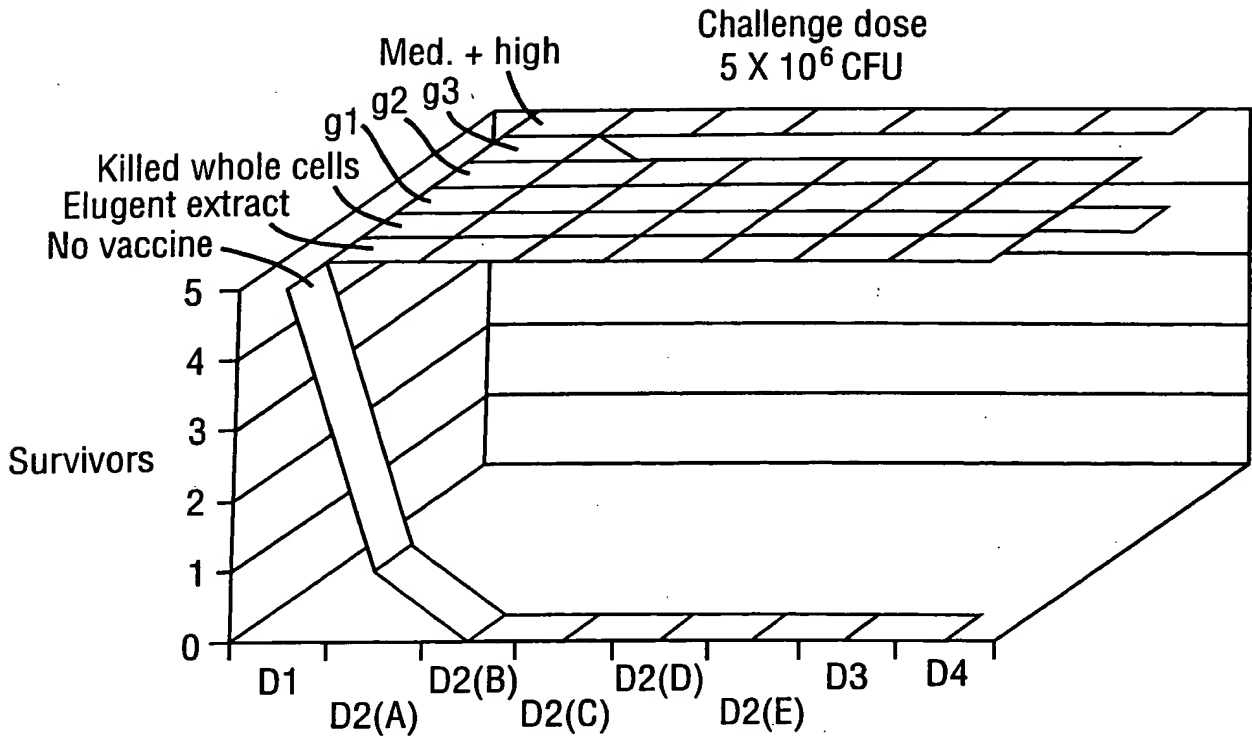


FIG. 5

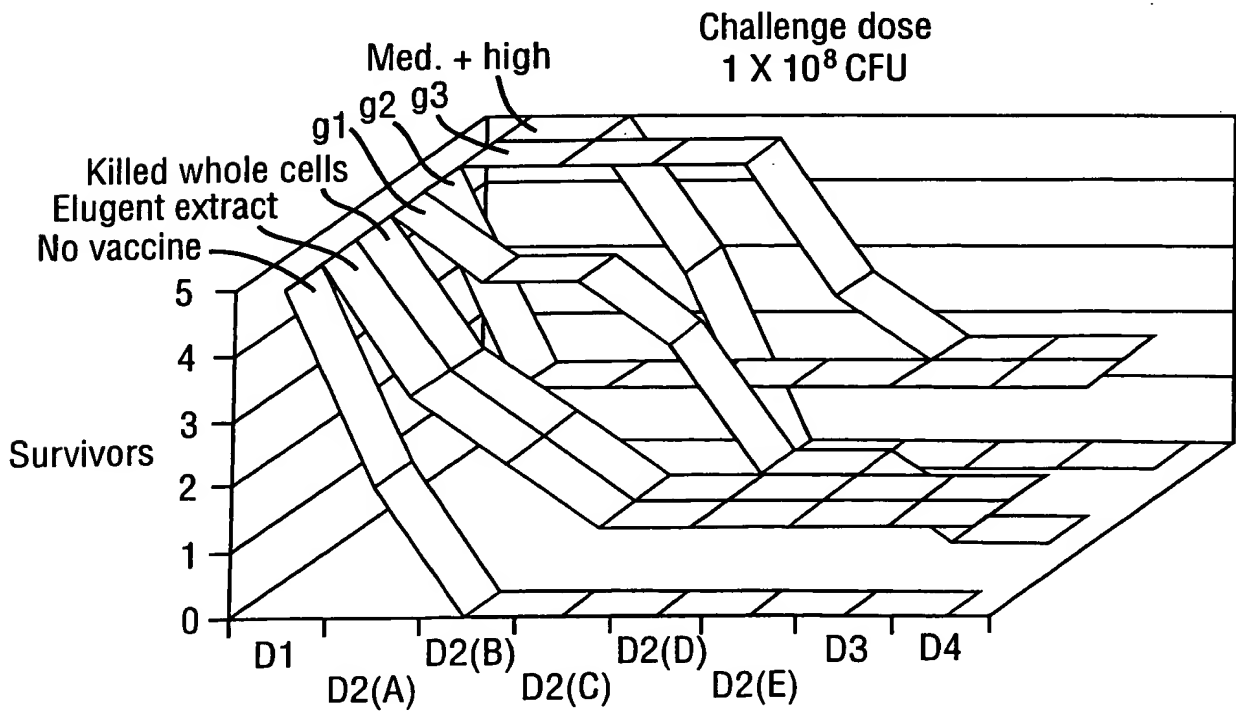
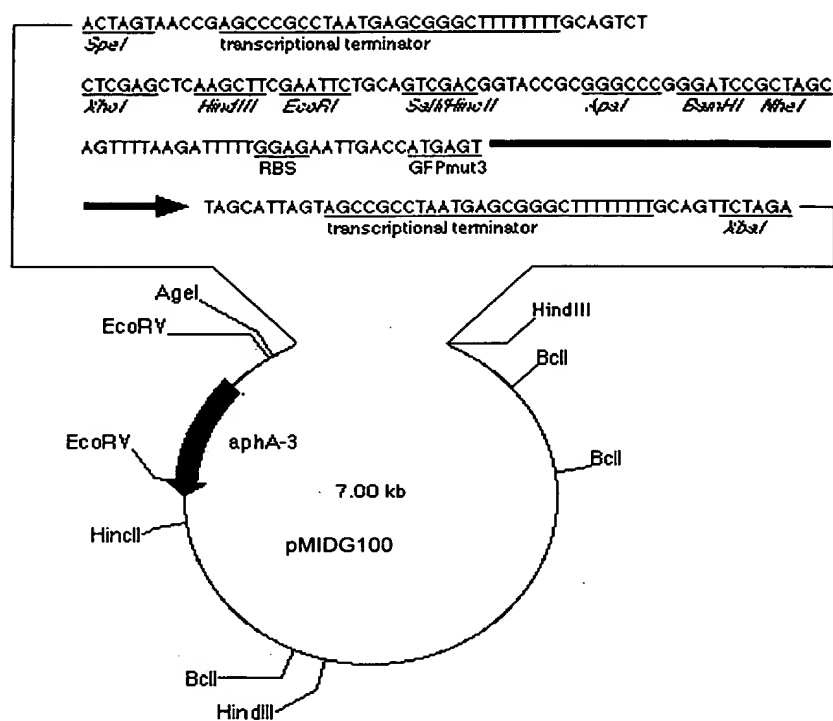


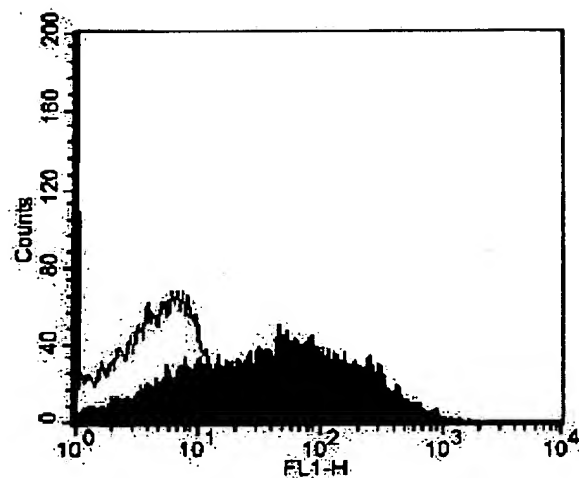
Fig. 7



094253.0341

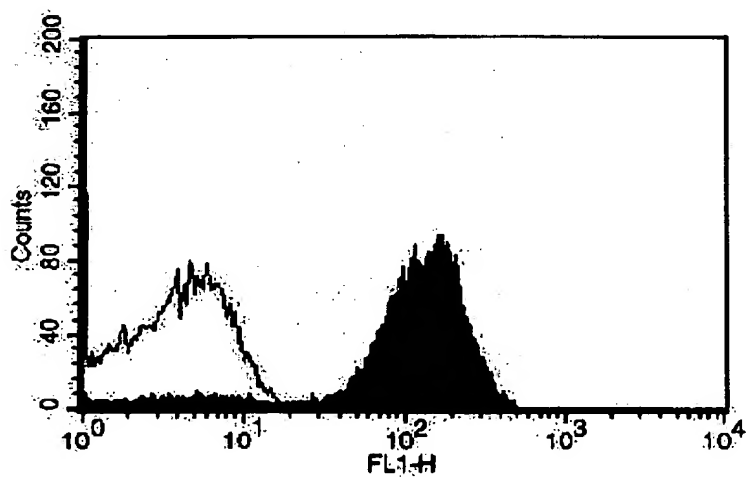
Fig. 8

(A)



Key	Name	Parameter	Gate
—	N. cinerea NRL32165 pMIDG100	FL1-H	G1
█	N. cinerea NRL32165 pMIDG101	FL1-H	G1

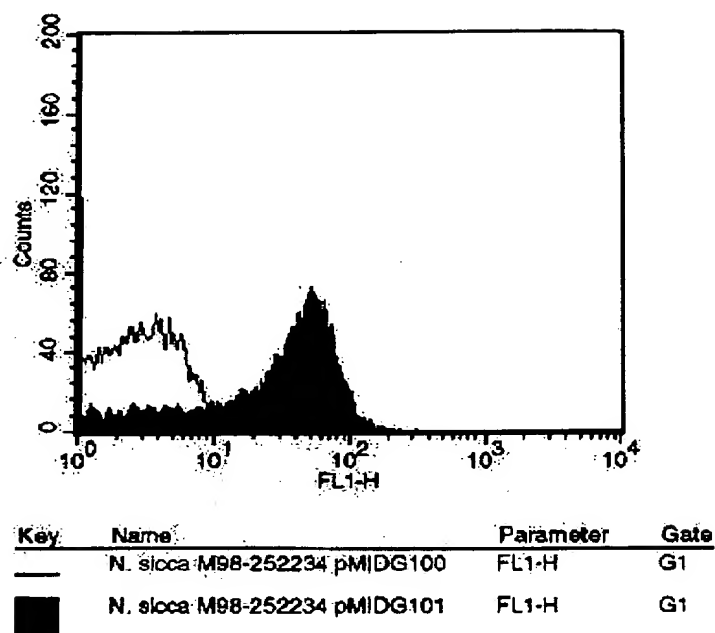
(B)



Key	Name	Parameter	Gate
—	N. flava NRL30006 pMIDG100	FL1-H	G1
█	N. flava NRL30006 pMIDG101	FL1-H	G1

Fig. 8 (continued)

(C)



(D)

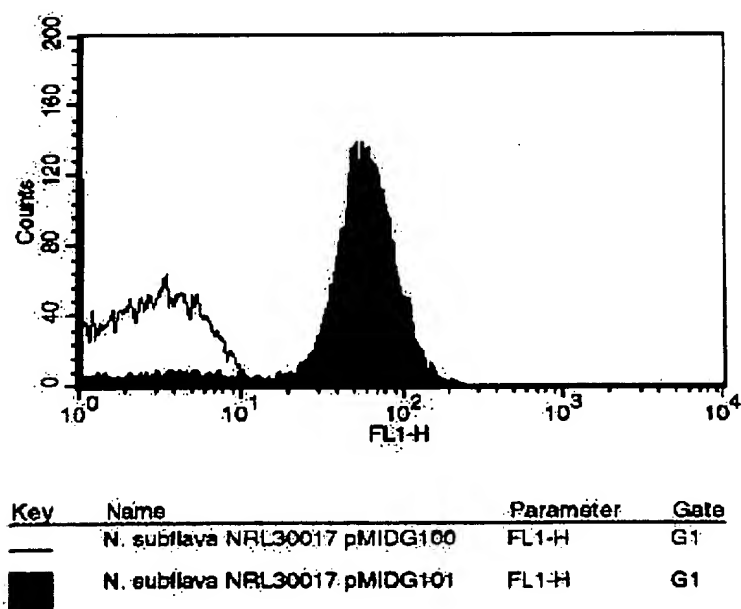
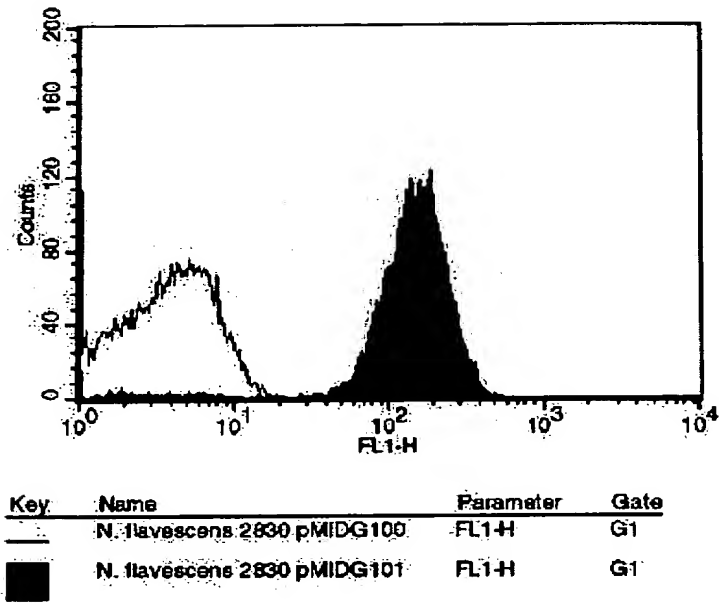




Fig. 8 (continued)

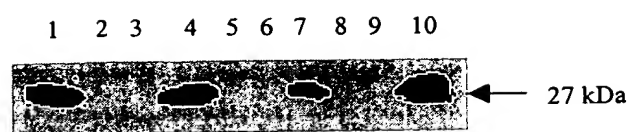
(E)



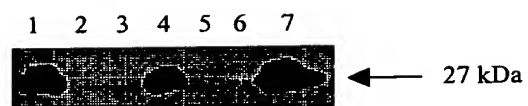
T01E30-2832h650

**Fig. 9**

**(A)**

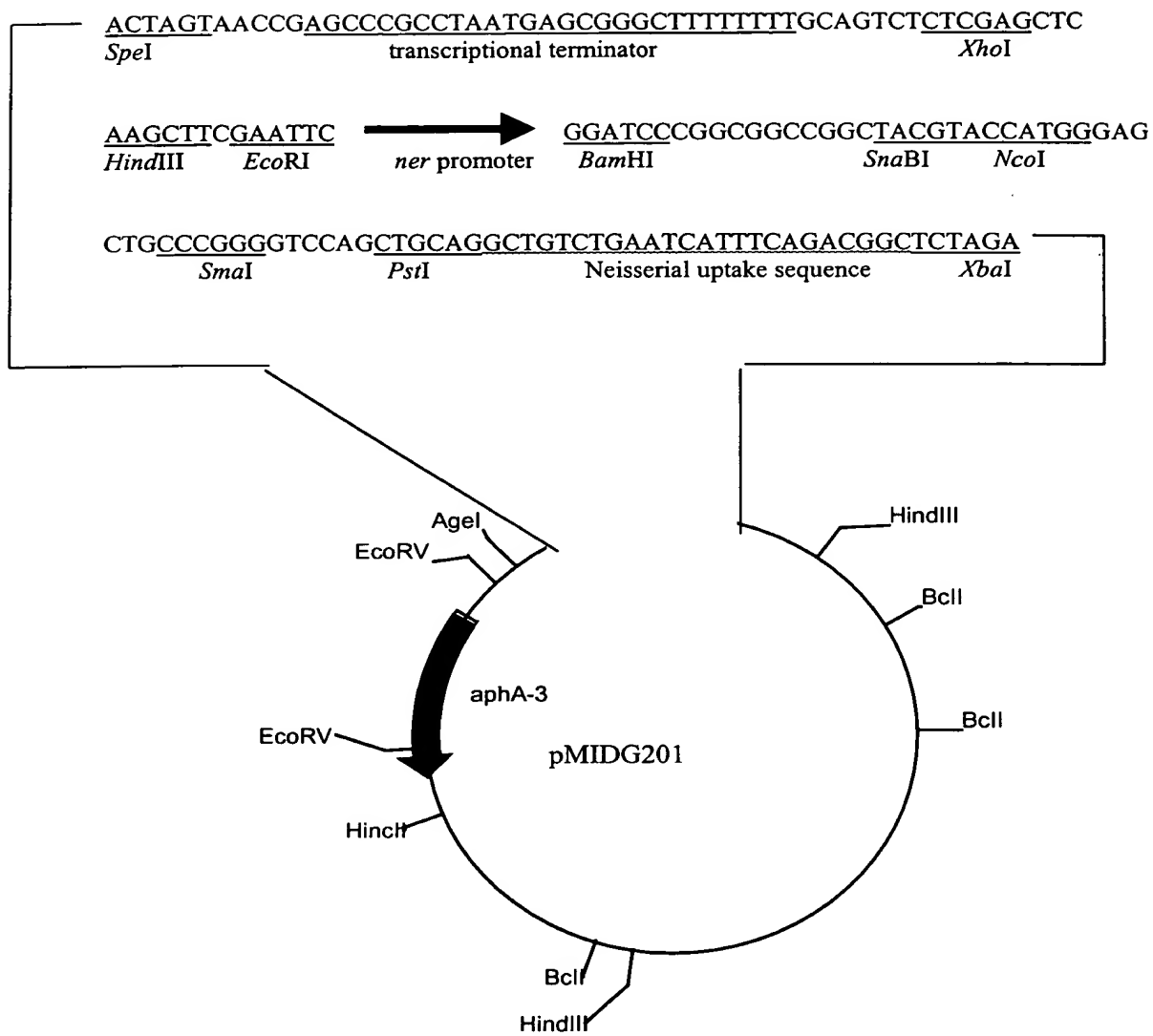


**(B)**



bioRxiv preprint doi: <https://doi.org/10.1101/2017.03.14.128460>; this version posted March 14, 2017. The copyright holder for this preprint (which was not certified by peer review) is the author/funder, who has granted bioRxiv a license to display the preprint in perpetuity. It is made available under aCC-BY-NC-ND 4.0 International license.

Fig. 10



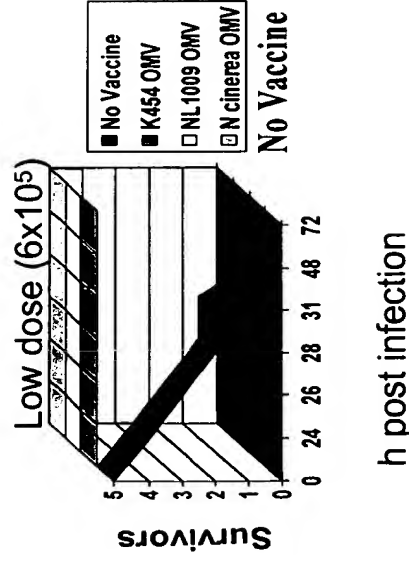
TOP SECRET

*NcoI* - tgaccataaaggaaccaaataatgaaaaaagcacttgccacactgattgccctcgctctcccgccgcccgcactggcgggaaggcgcatccttta

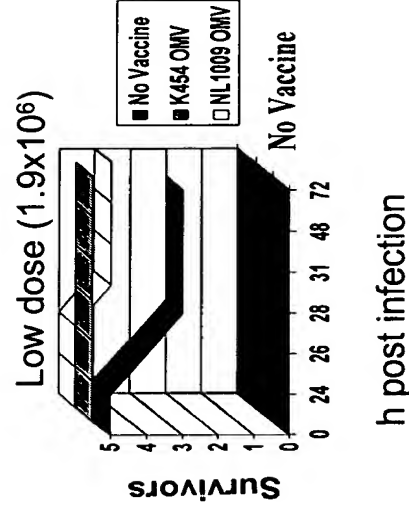
[illegible]

Fig. 12 *N. lactamica* OMVs protect mice against challenge by diverse meningococcal strains

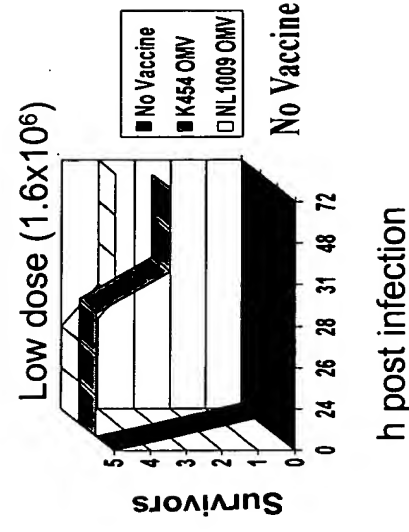
K454 B15:P1.7,16 (ET5)



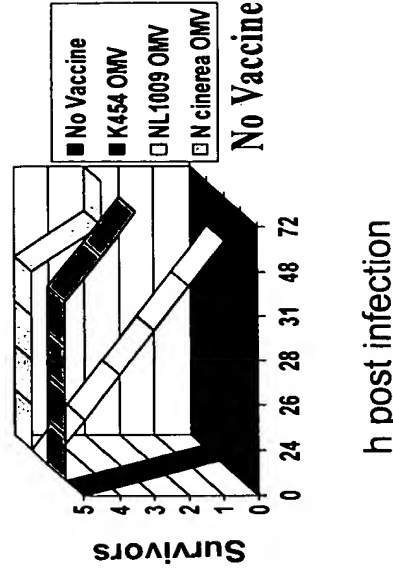
Z4673 B (Lineage 3)



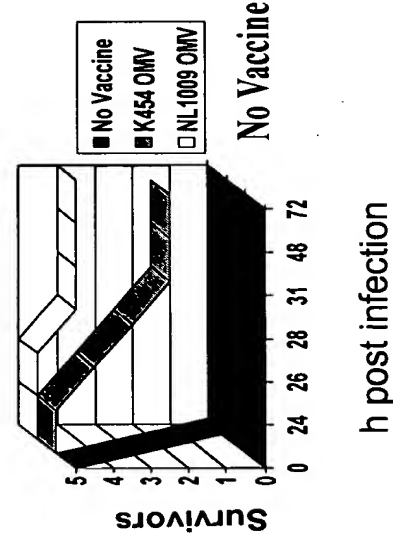
Z8948 C2a:P1.5,2 (ET37)



High dose ( $5.7 \times 10^9$ )



High dose ( $2.7 \times 10^7$ )



High dose ( $2.3 \times 10^6$ )

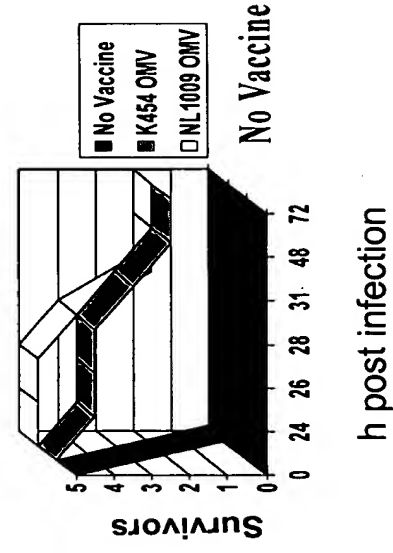
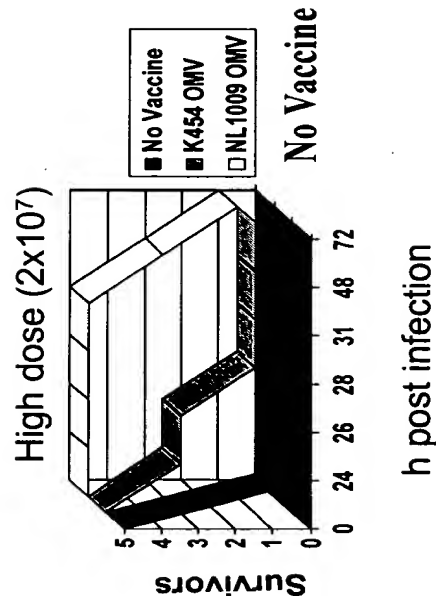
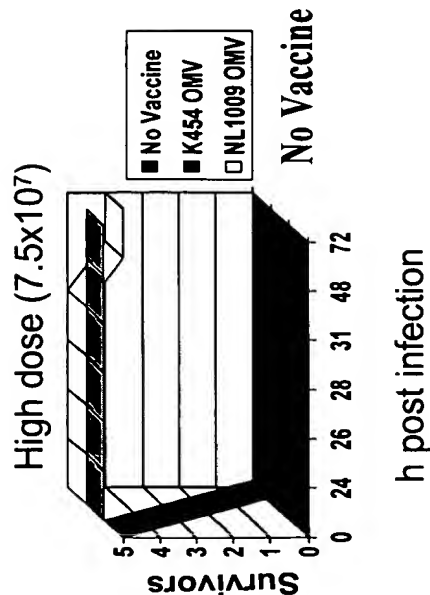
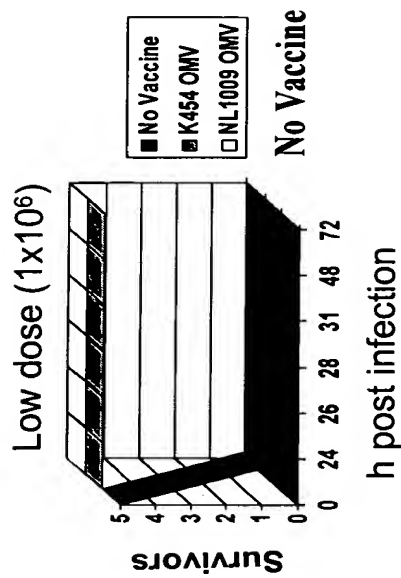
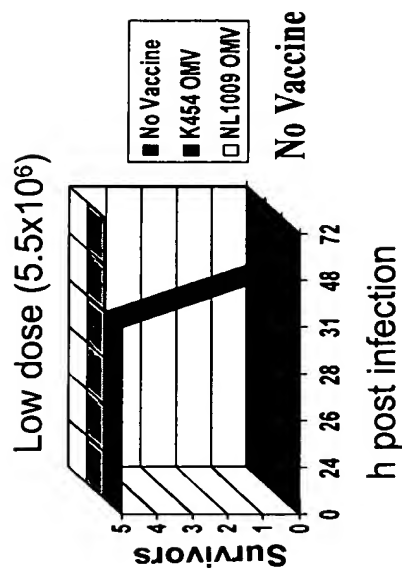


Fig 12 continued

NZ 394/98 B4:P1.6 (Lineage 3)

Z4662 B2b:P1.2 (A4)



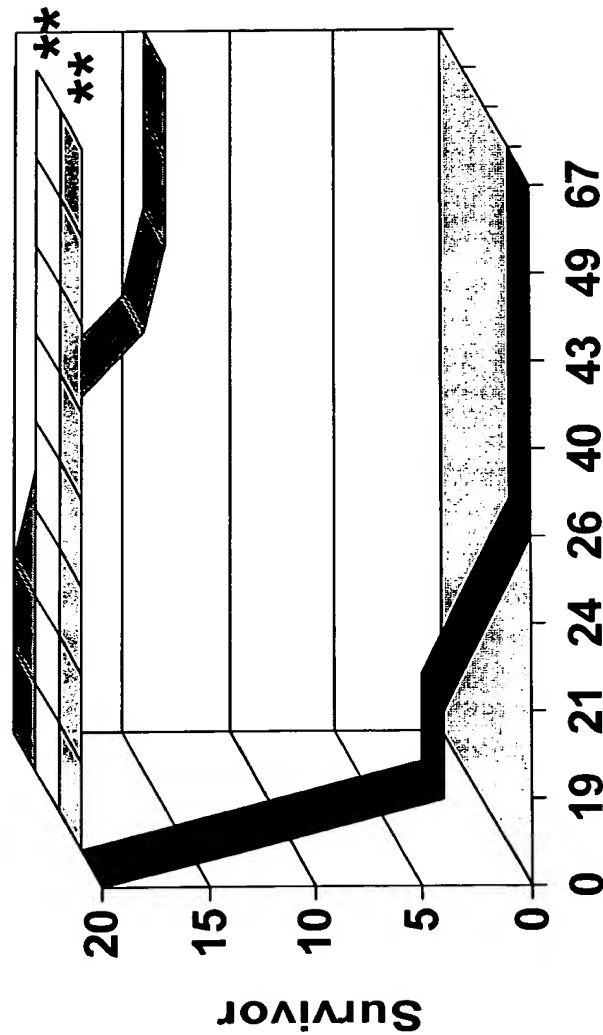
2



2

**Fig. 14. *N. lactamica* OMVs with Freund's or alum adjuvant protect mice against serogroup B meningococcal challenge (isolate K454)**

Challenge dose  $4.35 \times 10^6$  CFU



Hours post challenge

\*\*  $p = < 0.001$

- No vaccine
- OMV Freund's
- OMV ALOH